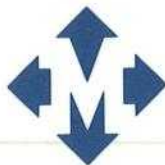


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**MAPCO ALASKA PETROLEUM INC.**

1100 H&H LANE  
NORTH POLE, ALASKA 99705  
(907) 488-2741

**RECEIVED**

DEC 8 1995

12/4/95

Office of Enforcement  
EPA Region 10

December 4, 1995

Betty Wiese  
US Environmental Protection Agency  
HW-112  
1200 Sixth Avenue, AT-082  
Seattle, WA 98101

**ENFORCEMENT  
SENSITIVE**  
**FILE COPY**

RE: High Benzene Levels in Wastewater Lagoon

Dear Ms. Wiese,

MAPCO ALASKA PETROLEUM Inc.'s (MAPI's) North Pole Refinery experienced decreased benzene removal efficiency in the process wastewater treatment system during the last month which resulted in wastewater with benzene levels above 0.5 mg/L being treated in the wastewater lagoons. The purpose of this letter is to notify you of this problem and detail the steps taken to mitigate it.

The MAPI wastewater treatment process consists of gravity oil/water separation, followed by air stripping to reduce benzene to concentrations to less than 0.5 mg/L, and then biological treatment in two open aerated lagoons operated in series. There are two parallel air strippers but only one operates at a time. When maintenance is required on one stripper the wastewater flow is switched to the other stripper. Following treatment, the wastewater is discharged to the North Pole POTW under a pretreatment permit.

On October 24, routine samples were taken of the water between the air strippers and the wastewater lagoon. The benzene level in the sample was 0.39 mg/L which was much higher than the normal level of approximately 0.01 to 0.02 mg/L. Because this was close to 0.5 mg/L, we investigated to determine the cause but were unable to locate it.

On November 22, we received laboratory results which showed higher than normal benzene levels between the two lagoons (0.015 mg/L). This raised concerns that the higher benzene levels from the air strippers were not an isolated occurrence but an ongoing problem. It was then determined that the problem was fouling of the air stripper packing. We immediately made operational changes to the strippers to enhance treatment until the packing could be changed. Results from routine sampling of the air stripper effluent on November 21 were received on November 27 and showed benzene levels of 0.6 mg/L.

By November 29 the packing change was completed on one stripper and we switched the wastewater flow to it. We were unable to get sufficient water flow through the stripper and

had to switch back to the dirty stripper after only 5 hours of operation on the cleaned stripper. Additional maintenance on the blowers and water distributors was completed by December 2 and the water was switched back to the clean stripper.

We resampled several times during the week of November 27 to determine if changes made to the air strippers corrected the treatment inefficiency. The dirty air stripper was only reducing benzene levels to 0.88 mg/L (sample taken November 27). The cleaned air stripper prior to the maintenance on the blower and distributor was reducing benzene to 0.85 mg/L (sample taken November 29). Additional samples were taken after all maintenance was completed but we haven't yet received those results.

When final laboratory results are received we will notify you. If you have any questions or comments please call Kathleen McCullom at 488-0033.

Sincerely,

A handwritten signature in cursive script, reading "David C. Rowse". The signature is written in dark ink and is positioned above the printed name.

David C. Rowse  
General Manager  
MAPCO ALASKA PETROLEUM, Inc.

cc: Kathleen McCullom/MAPCO  
Lin Patterson/MAPCO  
William McGee/ADEC